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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/712,932

04/26/2004

Antonio Gutierrez

2000L003

9889

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12/19/2006

EXAMINER

GOLOBOY, JAMES C

ART UNIT

PAPER NUMBER

1714

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

12/19/2006

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/712,932

Applicant(s)

GUTIERREZ ET AL.

Examiner

James Goloboy

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1714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 4/26/2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                                                    |                                                                                         |
|------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                               | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>3/24/2005</u> . | 6) <input type="checkbox"/> Other: _____                                                |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1-5 and 7-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nnadi (U.S. Pat. No. 4,025,452) in view of Papay (U.S. Pat. No. 5,652,201).

In column 1 lines 6-12, Nnadi discloses a dispersant-viscosity improving additive for lubricant compositions, particularly lubricant oils and greases. In the structures in column 1 lines 36-50 and lines 62-67, and the text on lines 31-36 and 52-62, Nnadi describes the structure for the additive. The structure comprises 2+z aromatic heterocyclic moieties, and in column 1 lines 59-60 Nnadi discloses that z can be a whole number, leading to at least 3 aromatic heterocyclic moieties in the structure. The structures described in Claims 1 and 8 also contains at least 3 heterocyclic moieties.

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The structure of Nnadi also comprises a linking group, as also recited in Claim 1, and more specifically an ether linkage, as in Claims 5 and 12. The end groups B in the structure of Nnadi can be hydrogen, as can the T groups in the structures of Claims 1 and 8.

The aromatic heterocyclic moieties of Nnadi have a substituent A, which can be a hydrogen, amine, or alkyl groups, which are some of the acceptable substituents recited in Claims 1 and 8. 100% of the moieties have an A group, falling within the range of at least 60% recited in Claims 3 and 10. When A is an alkyl group, Nnadi teaches in column 2 line 10-11 that it preferably has a chain length from 1 to 100 carbon atoms, encompassing the range recited in Claims and 11.

In column 2 lines 6-7, Nnadi discloses that the additive is used in an amount from about 0.5% to about 5% by weight in a lubricant composition, falling within the range recited in Claim 7.

In column 5 lines 8-10 Nnadi discloses an embodiment where the molecular weight of the polyethylene oxide-polypropylene oxide linking group is about 1000, and z is equal to 0. The molecular weight of polyethylene oxide-polypropylene oxide is about 102 ( $5 \times 12 + 10 \times 1 + 2 \times 16$ ), so there are about 10 polyethylene oxide-polypropylene oxide units in the linking group. Each unit contains 5 carbon atoms, so if the preparation is modified in accordance with column 1 line 55 so that A is a hydrogen, there are a total of 50 aliphatic carbon atoms in the additive, compared to 12 aromatic ring atoms, a ratio of about 4.17:1, falling within the ranges recited in Claims 2 and 9.

Nnadi does not disclose a high molecular weight dispersant.

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Papay discloses a lubricant composition comprising a dispersant-viscosity improver (column 46 lines 44-50), and a dispersant (columns 13-37). In column 28 lines 25-31 (Example B-4), Papay discloses a dispersant made from polyisobutylene with a molecular weight of 1,710, falling within the defined by applicant on page 7 lines 24-27 of the specification as forming a high molecular weight dispersant. The dispersant has a nitrogen content of 1.1%. In the first table in column 50, Papay discloses that the most preferred concentration for the dispersant (component b) in a lubricating composition is from 1 to 8%. The nitrogen content of the composition is therefore from 0.011 to 0.088%, within the range recited in Claim 7.

Claims 1-5 and 7-12 are therefore rendered obvious by the use of the high molecular weight dispersant of Papay in the oligomer-containing lubricant composition of Nnadi.

4. Claims 6 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nnadi in view of Papay as applied to claims 1-5 and 7-12 above, and further in view of Dexter (U.S. Pat. No. 3,156,690).

The discussion of Nnadi in view of Papay in paragraph 3 above is incorporated here by reference. Nnadi in view of Papay discloses a lubricant composition comprising a triazine oligomer in accordance with Claim 1. The oligomer of Nnadi does not include any of the linkage moieties recited in Claims 6 and 13.

Dexter, in column 6 lines 25-33, discloses triazine units in an oligomer connected by a linking group  $X_2-A-X_1$ . In column 6 lines 46-47 Dexter teaches that  $X_1$  and  $X_2$  can

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be sulfur, while lines 55 and 69-72 Dexter teaches that A is optional (n, m, and p can all be zero). When  $X_1$  and  $X_2$  are sulfur, and A is not present, the units are connected by an  $S_2$  sulfur linkage, as in Claims 6 and 13. Dexter also teaches that A may be a diacyl linkage, albeit not the same ones as recited in Claims 6 and 13 due to the presence of  $X_1$  and  $X_2$ .

It would have been obvious to one of ordinary skill in the art to use the sulfur linking group of Dexter in the triazine oligomer of Nnadi, as Dexter teaches in column 8 lines 54-61 that such compounds can stabilize oils against degradation.

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Lutwack (U.S. Pat. Nos. 3,206,407 and 3,309,345) also discloses aromatic heterocyclic oligomers for use in a lubricating composition.

The references disclosed on the IDS submitted December 22, 2000 have been considered and made of record, in accordance with applicant's request.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Goloboy whose telephone number is 571-272-2476. The examiner can normally be reached on M-F 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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